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ABSTRACT

To determine if integrating course content with reading study skills would (1) increase student learning of course content and (2) improve students' general reading achievement, one section of a reading education course for preservice teachers was taught reading study skills along with course content; two sections were given no classroom instruction but instead were enrolled as tutors for public school children; and one control section was taught course content but not reading study skills. Although the four groups showed no significant differences in achievement on either the Stanford Diagnostic Reading Test or a study attitudes test, the experimental section scored significantly higher on tests covering course content and study habits. Test results indicated that teaching effective study skills helped students master course content. (MM)

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IMPROVING STUDY HABITS AND ATTITUDES IN THE COLLEGE CONTENT CLASS: A REPLICATION STUDY

by

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Abstract

Preservice teachers enrolled in four sections of a freshman level reading education course participated in this replication study. The experimental group was taught reading study skills integrated with course content and assignments. The control group was taught only course content. The other two groups tutored children in the public schools. Analyses of pre and posttest scores for an examiner-created course content test, the scaled scores for the Vocabulary and Comprehension subtests of the Stanford Diagnostic Reading Test, Blue Level, and percentile ranks on the Study Habits and Study Attitudes subtests of the Survey of Study Habits and Attitudes indicated no significant differences between groups on posttest scores on the Stanford and the Study Attitudes subtests; but significant differences favoring the experimental group on posttest scores on the course content test and the Study Habits subtest. Results were interpreted as further evidence that when preservice teachers lack effective study habits, reading educators can develop these skills as they help students master course content, and that doing so results in increased mastery of course content.

A REPLICATION STUDY: TEACHING READING STUDY SKILLS AND COURSE CONTENT TO PRESERVICE TEACHERS

For some time, reading educators have advocated the teaching of reading study skills integrated with course content. Furthermore, they recommend teaching only those skills needed to successfully complete specific assignments, as opposed to an inclusive list of study skills (Herber, 1978; Vacca, 1975). Although not common practice, researchers have investigated the effects of improving reading study skills while teaching course content (Lovelace & McKnight, 1980; Jacques & Corrin, 1981; Gillis & Olson, 1984). In each study cited, the researcher asked whether students would learn significantly more course content if reading study skills were integrated with the course content. These studies tend to indicate an affirmative response.

Gillis & Olson (1984) used preservice teachers in a reading education course to investigate three questions: Do students learn course content when reading study skills are integrated with the content? Do students significantly improve their study habits and attitudes when reading study skills are taught in the context of a content course? Does students' general reading achievement significantly improve when reading study skills are integrated with course content?

In that study, four sections of preservice teachers were randomly assigned to one of four groups, two of which served as experimental groups and were taught reading study skills combined with course content. Because the university at which the study was conducted had a prior commitment to provide tutors for local elementary children, the other two groups tutored in the public schools and served as quasi-control groups. Because the quasi-control groups did not have the opportunity to learn course content, the researchers were unable to make a strong statement regarding the effects of reading study skills per se on learning course content. A true control group would have been presented course content but not reading study skills. In other words, the treatment variable in the Gillis & Olson study should have been reading study skills with the course content instruction held constant across groups.

The first purpose of the current study was to replicate systematically the Gillis and Olson study with four groups of preservice teachers: one group (the experimental group) who was taught reading study skills integrated with course content; two groups (the quasi-control groups) who tutored children in the public schools; and one group (the true control group) who was taught course content but not reading study skills. By adding a true control group, a design flaw was corrected.

An additional purpose of this study was to replicate the Gillis & Olson study in order to increase the extent to which the research findings can be generalized and to provide additional evidence of the validity of the findings. Few studies in the social sciences are replicated; although replication is a basic principle of competent research (Huck, Cormier, and Bounds, 1974).

The research questions investigated were: (1) Do students who are taught reading study skills in a reading education course learn significantly more course content than students who are only taught course content? (2) Do students who are taught reading study skills in a reading education course significantly improve their study habits and attitudes as opposed to students who are not taught reading study skills? (3) Does general reading achievement significantly improve for students who are taught reading study skills integrated with course content?

Methodology

Subjects. The subjects were 120 undergraduates (54 freshmen, 42 sophomores, 19 juniors, 2 seniors, and 3 others) enrolled in four sections of a freshman level reading education course at a central Texas university. Students self-selected the section of the course for which they registered. All students agreed to participate in the study.

Materials. The materials were the articles, portions of texts,

study guides, transparencies, and handouts used in the previous study (Gillis & Olson, 1984).

Procedures. The experimental and quasi-control groups were taught by one of the authors. The control group was taught by a colleague. Both instructors teach one or more sections of this course each semester. The quasi-control groups tutored primary grade children in the public schools using a repeated reading procedure. The experimental and control groups attended a standard lecture-based college class and were taught the same course content. The content included such topics as views of the reading process and instructional implications, history of American reading instruction, and characteristics of good and poor readers. The instructional procedures used with the control group were typical methods used in a lecture-based class. However, for the experimental group, the same instructional procedures used with the control group plus the strategies used in the original study to improve students' study habits and attitudes were implemented. These procedures included the following:

1. Students were taken to the library and shown how to use the resources needed to complete specific course assignments.
2. Students were given a study guide to accompany each reading assignment. The guides focused on important points in the reading and helped students to realize the structure of the text (e.g., cause/effect, main idea/details). Guides were

due and discussed the class period after assignment. Most guides were collected, graded and returned to students with written comments.

3. Students were taught to take notes using the Cornell method (Paulk, 1974) and used that strategy in class. They were also taught how to use these notes to prepare for quizzes and exams.
4. Students were taught time-management techniques and made weekly schedules after keeping a log to indicate how they spent their time.
5. When a major course project was assigned students were helped to analyze project tasks and set deadlines for each task.
6. Students were required to keep a notebook containing class notes, handouts, etc. This notebook was organized by course topic. It was checked and graded for content and organization every five weeks.
7. Students were taught important vocabulary prior to topic presentation. Structured overviews (Barron, 1979) were used to introduce new vocabulary and to illustrate how new terms related to prior vocabulary and/or topics.
8. Students were taught a five-step summarizing procedure (Day, 1980). They turned in three summaries. These were graded and returned with specific written comments pertaining to their mastery of the summarizing procedure.

9. Instructors briefly outlined each day's lecture on the board or an overhead to guide notetaking.

10. The reading study skills needed to succeed in a particular assignment were taught when needed. The content of the course determined the reading study skills taught.

Dependent Measures. The five dependent measures were percentile ranks for the Study Habits and Study Attitudes subtests of the Survey of Study Habits and Attitudes, Form C (Brown & Holtzman, 1967); scaled scores of the Vocabulary and Comprehension subtests of the Stanford Diagnostic Reading Test, Blue Level (Karlsen, Madden, & Gardner, 1977); and the researcher-designed multiple-choice Course Content test used in the original study (Gillis & Olson, 1984). All subjects were pre and posttested on all dependent measures.

Analyses. One-way analyses of variance were conducted on pretest scores for each of the dependent measures in order to determine if there were any initial differences among the four groups. Analyses of covariance were used on posttest scores, using the pretest score as the covariant in each case. Analysis of covariance was selected, despite the lack of initial differences among groups, because it would provide a more powerful analysis than analysis of variance.

Results

The analyses of variance for pretest scores indicated that there were no significant differences among the four groups on any of the pretests.

The analyses of covariance for posttest scores indicated that there were no significant differences among the four groups on the Vocabulary and Comprehension subtests of the Stanford Diagnostic Reading Scales. However, these analyses revealed significant differences among groups on the Course Content posttest scores ($F_{3,107} = 64.57$, $p < .0001$); the Study Habits subtest scores ($F_{3,116} = 3.47$, $p < .02$); and the Study Attitudes subtest scores ($F_{3,116} = 2.76$, $p < .05$). These analyses are summarized in Tables 1, 2, and 3.

INSERT TABLES 1, 2, AND 3 HERE

For each of the analyses of covariance indicating significant main effects, Duncan's Multiple Range tests were used post hoc to determine where differences among groups occurred. These tests revealed that the experimental group's mean score on the Course Content posttest was significantly ($p < .01$) higher than each of the other groups' means. The mean posttest scores for the experimental group on the Study Habits subtest was significantly ($p < .05$) higher than that of the control group and one of the quasi-control groups. There were no significant differences among groups on the posttest means for the Study Attitudes subtest.

General Discussion

The current investigation systematically replicated the Gillis

& Olson study (1984) with the addition of a true control group that was taught course content but not reading study skills. Replication allows research findings to be generalized to a greater degree and increases evidence of validity. "Reading study skills" is the prevailing term for a variety of behaviors that readers may perform to increase comprehension and retention of information (e.g. outlining, summarizing, reading graphics, using the SQ3R procedure, notetaking). When reading study skills are taught to enhance the understanding of the content of a curriculum they are more apt to be learned (Herber, 1978). Therefore, the course content and course assignments determined which reading study skills were taught to members of the experimental group.

The first question of interest was whether integrating reading study skills with course content increased the amount of course content students learned. The analyses of course content posttest scores indicated that the experimental group significantly outscored the two quasi-control groups (the tutors), a finding that replicated the results of the analysis of course content scores obtained in the previous study. More importantly, the analysis indicated that the experimental group significantly outscored the true control group. In other words, teaching reading study skills integrated with course content appears to enhance students' learning of that content. Simply presenting course content to students to learn more or less on their own resulted in significantly lower scores. These

data suggest that reading educators can increase student mastery of course content by designing their courses to include the teaching of appropriate reading study skills.

The second question investigated by this study was whether students taught reading study skills in a reading education course significantly improved their study attitudes and/or study habits. The analyses of both the SSHA Study Attitudes subtest and the Study Habits subtest scores revealed significant main effects; therefore, post hoc multiple comparison analyses were conducted to determine the cause of the significant F's. The results of the post hoc analysis for the Study Attitudes subtest scores indicated that none of the groups differed significantly. In other words, the attitudes of the student population were generally about the same toward school and study. Apparently, the significant main effects for study attitudes was not strong enough to overcome the loss of statistical power that accompanies multiple comparison tests.

The post hoc comparisons for the Study Habits subtest scores; however, reveal that the experimental group's study habits significantly improved when compared to the control group's study habits. That is, students who were taught reading study skills in the context of course content were able to improve their study habits significantly. Considered together, these data indicate that a group of students may have similar attitudes toward study, education, and schooling (e.g. good intentions), but only those students who are

taught how to study and what to study in relation to a specific content make significant improvements in their study habits. When considered with the significant course content results, the data indicate reading educators can concurrently increase student mastery of course content and improve study habits. Reading educators can "practice what they preach".

The third research question asked if students' general reading achievement improved as a result of receiving reading study skills instruction. Again, it was hoped that students' general reading achievement would benefit from this instruction, but the analysis of SDRT comprehension scores showed no significant results.

Student feedback during and after the course revealed additional student benefits. As in the previous study, students believe they learned a great deal about how to study. They also reported using some of the reading study skills in other classes.

A further benefit of including reading study skills integrated with course content is that reading educators served as role models for content area instruction. When students in the experimental group enrolled in the undergraduate reading practicum, they, in turn, taught the reading study skills learned in class to their secondary students.

These two studies provide additional evidence to support the practice of teaching appropriate reading study skills in content classrooms. Education is currently attracting less able students

(Roberson, Keith, Page, 1983). Therefore, reading educators are particularly well advised to integrate teaching reading study skills with course content in order to help future teachers achieve both greater mastery of course content and improved study habits.

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TABLE 1

ANALYSIS OF COVARIANCE FOR COURSE CONTENT POSTTEST SCORES USING PRETEST SCORES AS THE COVARIANT

SOURCE	SS	df	MS	F	P
Covariate	934.21	1			
Between	5231.31	3	1743.77	64.57	.0001
Within	2889.54	107	27.01		
TOTAL	9055.06	111			

TABLE 2

ANALYSIS OF COVARIANCE FOR STUDY

HABITS POSTTEST SCORES USING

PRETEST SCORES AS THE COVARIATE

SOURCE	SS	df	MS	F	P
Covariate	43453.83	1			
Between	4818.17	3	1606.06	3.47	.02
Within	53727.36	116	463.17		
TOTAL	101999.36	120			

TABLE 3

ANALYSIS OF COVARIANCE FOR STUDY ATTITUDES POSTTEST SCORES USING PRETEST SCORES AS THE COVARIATE

SOURCE	SS	df	MS	F	P
Covariate	39755.83	1			
Between	3791.65	3	1263.89	2.76	.05
Within	53146.48	116	458.16		
TOTAL	96693.96	120			